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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,062	01/05/2005	Yoshiaki Fukunaga	2936-0235PUS1	5127

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EXAMINER

KIRKSEY, DONTE R

ART UNIT	PAPER NUMBER
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4193

NOTIFICATION DATE	DELIVERY MODE
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03/10/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/520,062	Applicant(s) FUKUNAGA ET AL.	
	Examiner DONTE KIRKSEY	Art Unit 4193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/21/2007, 01/05/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Amos (USP 6,118,098).

With respect to claim 1, Fig 1A - Fig 2B of Amos teaches a method of repairing a turbine rotor (5) by performing build-up welding (with 21 and 23 of Fig 2A Col. 6, Lines 15-22) on a rotor material (repair surface in Col 6, line 20-21) so as to form a repaired portion (3) thereon, wherein said build-up welding (see Fig 2A, 21 and 23) is achieved by performing thin-layer build-up welding (Col 4, Lines 44-46) at a high deposition rate (Col 1, 52-55) whereby said repaired portion (3) is formed as a result of beads (11, 13, 15, 17) for thin-layer build-up welding (see Fig 2A, 21 and 23) being laid in layers (see Abstract, Lines 13-15).

With respect to claim 2, Amos teaches a thin-layer build-up welding (see Fig 2A, 21 and 23) at a high deposition rate (see Amos, Col 1, 52-55) is achieved by performing arc welding (see Col 10, Lines 28-30) using an electrically conductive flux (Col 10, Lines 5-10).

With respect to claim 3, Amos teaches a repaired portion (3) is formed by first performing build-up welding (with 21 and 23 of Fig 2A,) at a comparatively low

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deposition rate (low is defined as less than normal in degree or intensity or amount of the natural process of laying down a deposit of something, see Amos, Col 1, Lines 52-62) from a first layer (see preheated layer, see Amos, Col 1, Lines 52-62) of said repaired portion (3) up to a predetermined height (see Amos, Col 9, Lines 43-45) and then performing build-up welding (see Fig 2A, 21 and 23) at a comparatively high deposition rate (see Amos, Col 1, Lines 52-55) for a remaining portion of said repaired portion (3).

With respect to claim 4, Amos teaches a repaired portion is formed by first performing build-up welding (see Fig 2A, 21 and 23) at a comparatively low deposition rate (low is defined as less than normal in degree or intensity or amount of the natural process of laying down a deposit of something, see Amos, Col 1, Lines 52-62) from a first layer (see preheated layer, see Amos, Col 1, Lines 52-62) of said repaired portion (3) up to a predetermined height (see Amos, Col 9, Lines 43-45) and then performing build-up welding (see Fig 2A, 21 and 23) at a comparatively high deposition rate (see Amos, Col 1, Lines 52-55) for a remaining portion of said repaired portion (3).

With respect to claim 5, Amos teaches a groove (see Col 2, Lines 25-28) is formed in said repaired portion (3) in order to restore a rotor blade groove (5).

With respect to claim 6, Amos teaches a groove (see Col 2, Lines 25-28) is formed in said repaired portion (3) in order to restore a rotor blade groove (see Col 2, Lines 25-28).

With respect to claim 7, Amos teaches a groove (see Col 2, Lines 25-28) is formed in said repaired portion (3) in order to restore a rotor blade groove (see Col 2, Lines 25-28).

With respect to claim 8, Amos teaches a groove (see Col 2, Lines 25-28) is formed in said repaired portion (3) in order to restore a rotor blade groove (see Col 2, Lines 25-28).

With respect to claim 9, Amos teaches thin-layer build-up welding (see Fig 2A, 21 and 23) at a high deposition rate (see Amos, Col 1, Lines 52-55) is achieved by a welding method with a deposition rate higher than TIG welding.

(A plasma is a gas which is heated to an extremely high temperature and ionized so that it becomes electrically conductive. Similar to GTAW (Tig), inherent that plasma arc welding is hotter than TIG welding, the plasma arc welding process uses this plasma to transfer an electric arc to a work piece. The metal to be welded is melted by the intense heat of the arc and fuses together. In the plasma welding torch a Tungsten electrode is located within a copper nozzle having a small opening at the tip. A pilot arc is initiated between the torch electrode and nozzle tip. This arc is then transferred to the metal to be welded. By forcing the plasma gas and arc through a constricted orifice, the torch delivers a high concentration of heat to a small area. With high performance welding equipment, the plasma process produces exceptionally high quality welds, See Amos Col 10, Lines 33-35)

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Crawmer et al. (USP 5,762,727) teaches a weld repair process and article repaired.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DONTE KIRKSEY whose telephone number is (571)270-3792. The examiner can normally be reached on 8 a.m to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Nguyen can be reached on 5712721753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Drk

/Long Nguyen/
Supervisory Patent Examiner
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